Tomer Chen

Senior Scientist

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Professional Summary

Senior Scientist specializing in molecular biology and genetic engineering with extensive experience in CRISPR technology, gene editing, and NGS analytics. Proven track record in developing custom Python-based software for NGS and RNA analysis that eliminated outsourcing costs while improving mRNA synthesis yields by up to 100%. Experienced in designing and implementing tailored bioinformatics solutions for genomic data processing and interpretation. Skilled in PCR, RT-qPCR, DNA/RNA extraction, and NGS library preparation, with strong capabilities in computational biology. Experienced in leading research teams and collaborating across disciplines to advance therapeutic technologies.

Skills

Molecular Biology: CRISPR & Gene Editing, NGS data analysis, NGS library preparation, PCR, RT-qPCR, µRNA design & implementation, WB , Transfection, Transformation, Cloning, RNA design, DNA/RNA/Protein extraction, Microscopy (Florescent & Confocal)
Programming: Python, C#, JS.
Soft Skills: Fast learner, Multitasking, Technical Writing & Documentation, Problem-Solving, Project Management, Teamwork.

Work Experience

Senior Scientist, Head of RNA Therapeutics 2023-Present
ArtBioScience
- Improved mRNA synthesis, boosting yields by 20%-100% and enabling previously unsynthesizable mRNAs.
- Developed software for vector and RNA design for tissue specific expression.
- Developed Python-based RNA analysis software, eliminating outsourcing costs and enabling in-house analysis.

Scientist, RNA Therapeutics Department 2021-2023
ArtBioScience
- Built a Python mRNA optimization tool, cutting external costs and increasing protein expression by 20%.
- Designed gRNA sequences for CRISPR and CRISPR-Base editor targets.

Scientific Consultant 2021
Weizmann Institute of Science
- Advised on experimental design, data analysis, and molecular biology techniques, improving research methods.

Postdoctoral researcher 2019-2021
Weizmann Institute of Science
- Led a research team of 3 scientists focused on developing drought-resistant plants via genetic engineering.
- Designed inducible vectors and localized promoters using µRNA to reduce gene expression in target plant tissues.
- Generated modified Arabidopsis thaliana plants that required 30% less water than wild-type.

Education

Academic

Ph.D. in Biotechnology - Weizmann Institute of Science 2014-2019
Thesis: Singlet Oxygen Synthesis Under Osmotic Shock Conditions

M.Sc. in Biotechnology - Bar-Ilan University 2011-2014
Thesis: Genetic Resistance of Cucumbers Against Downy Mildew
Professor Yehuda Halevy Prize for Exceptional Research

B.Sc. in Biotechnology, Psagot Program for Direct MSc Studies - Bar-Ilan University 2010-2011
Research Project: Identification Of Resistance Genes in Tomato Using Genetic Markers

Courses & Certifications

HackerU - Dot Net Full-Stack Developer 2023-2024
SoloLearn - Python Developer Certification 2023
SoloLearn - Python Core Certification 2022

Publications

Osmotic stress in roots drives lipoxygenase-dependent plastid remodeling through singlet oxygen production 2024
Lipoxygenase functions in 1O2 production during root responses to osmotic stress *2021*
Isolate-Dependent Inheritance of Resistance Against Pseudoperonospora cubensis in Cucumber *2020*
Singlet Oxygen Plays an Essential Role in the Root's Response to Osmotic Stress *2018*

Languages

English (Native) Hebrew (Native)